

MeSH Changes and PubMed Searching

January 27, 2023

NLM, NNLM Training Office



U.S. National Library of Medicine

Before We Start

- Captions: click “Closed Captions” button
- Chat: send questions to EVERYONE
- Handout: link in chat
- Reactions: give me a thumbs up!



MeSH Changes and PubMed Searching Training

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Pre-Test



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Agenda

- Pre-Test
- What happens when MeSH is updated?
- Examples of MeSH changes
- Post-Test



New MeSH Terms in the New Year

- New term with same meaning
- New term that is more specific
- Hierarchy changes



MeSH changes are documented:

- On the MeSH homepage
- In the NLM Technical Bulletin

The screenshot displays the National Library of Medicine (NLM) website. At the top, the NIH logo and 'National Library of Medicine' text are visible, along with a search bar labeled 'Search NLM'. Below this is a navigation bar with links for 'PRODUCTS AND SERVICES', 'RESOURCES FOR YOU', 'EXPLORE NLM', and 'GRANTS AND RESEARCH'. The main content area features the 'Medical Subject Headings' logo and a search bar for 'NLM Technical Bulletin articles'. The article title is 'MEDLINE and MeSH Data Changes – 2023', dated '2022 December 12 [posted]'. The article text states: 'This article collects the notable data changes made to MEDLINE during the National Library of Medicine (NLM) annual maintenance known as Year-End Processing (YEP) for 2023:'. It lists several items: 'MeSH Vocabulary Updated for 2023', 'MeSH Update Reports', 'Special MeSH Projects', and 'Updated MeSH in MEDLINE Citations'. A section titled 'MeSH Vocabulary Updated for 2023' explains that the MeSH Browser now points to the 2023 MeSH vocabulary. Another section, 'MeSH Update Reports', mentions that NLM offers reports detailing changes to the MeSH vocabulary, including 'Descriptors and SCRs Additions' and 'Preferred Term Updates'.



Example of Saved Search

An official website of the United States government [Here's how you know](#)

NIH National Library of Medicine
National Center for Biotechnology Information

My NCBI

[Customize this page](#) | [NCBI Site Preferences](#) | [Video Overview](#) | [Help](#)

My Bibliography

Your bibliography contains **no items**.
Your bibliography is **private**.

[Manage My Bibliography >](#)

Collections

All bibliographies and Other citations are now in [My Bibliography](#)

Collection Name	Items	Settings/Sharing	Type
Favorites	edit 0	Private	Standard
CBPR Environmental Scan	edit 21	Private	PubMed
PubChem	edit 3	Private	PubMed

[Manage Collections >](#)

Recent Activity

Time	Database	Type	Term
Yesterday 09:57 AM	MeSH	search	dust mite allergy
Yesterday 09:57 AM	MeSH	record	Dust Mite Allergy
Yesterday 09:55 AM	MeSH	record	Paramedicine
Yesterday 09:55 AM	MeSH	search	paramedicine
Yesterday 09:43 AM	MeSH	record	Wheelchairs

Saved Searches

Search Name	What's New	Last Searched
PubMed Searches		
long covid migraine	3	last year
long covid ethnicity	22	last year
misdiagnosis ethnicity	1	last year
Abstracting and Indexing[MAJR] AND Medical Subj...	0	last year

[Manage Saved Searches >](#)

Filters

Filters for:

You do not have any active filters for this database.
[Add filters for the selected database.](#)

[Manage Filters >](#)



Quiz 1

How far back can you search with the MeSH term **Post-Acute COVID-19 Syndrome**?

- a) 1963
- b) 1983
- c) 2020
- d) 2023



Quiz 2

How far back can you search with the MeSH term **Plastic Surgery Procedures**?

a) 1963

b) 1998

c) 2022

d) 2023



Questions?





New Term with Same Meaning



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- Existing PubMed records **ARE** changed
 - the old term is added as an entry term
- *Usually*, you need to do **nothing**
 - Consider adding the new preferred term to your searches

New Term with Same Meaning



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Quiz 3

Which MeSH term does a search for **Alien Hand Syndrome** map to?

- a) Alien Hand Syndrome
- b) Alien Limb Phenomenon
- c) It does not map
- d) Alien Limb Syndrome



New Term that is More Specific



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New Term that is More Specific (cont.)

- Existing records are generally **NOT** changed
- Consider using the new, more specific term to retrieve newly indexed records
- Use Previous Indexing and/or the broader term with the **[mhda]** search tag to search previously-indexed records



Exercise 1: Question 1

How far back can I search with Knee Fractures?

Answer: 2023

Knee Fractures

Fractures of bones at the KNEE and the KNEE JOINT.

Year introduced: 2023

PubMed search builder options

[Subheadings:](#)



Exercise 1: Question 2

Where do I look in the MeSH record for terms used prior to 2023?

Answer: Previous Indexing

Previous Indexing:

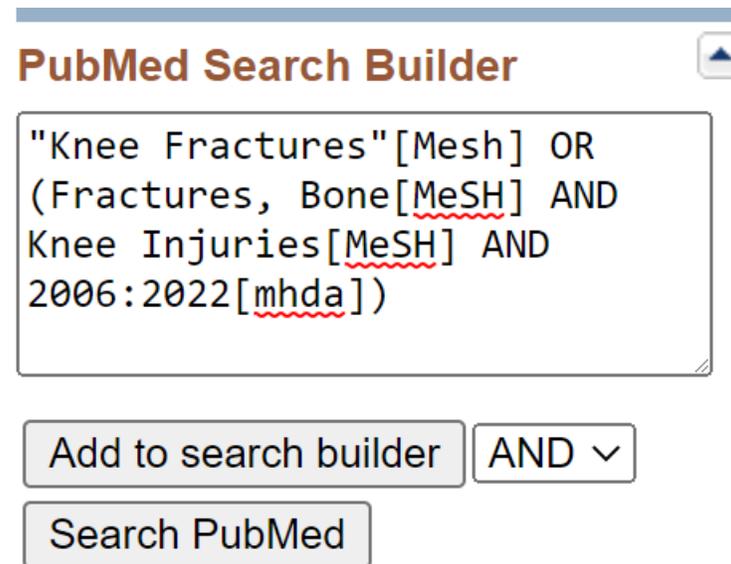
- [Fractures, Bone \(2006-2022\)](#)
- [Knee Injuries \(1963-2022\)](#)



Exercise 1: Question 3

What field tag do I use to limit to records indexed between 2006 and 2022?

- **Answer:** [mhda]



The screenshot shows the PubMed Search Builder interface. At the top, it says "PubMed Search Builder" with a small upward arrow icon. Below this is a text input field containing the following search query: "Knee Fractures"[Mesh] OR (Fractures, Bone[MeSH] AND Knee Injuries[MeSH] AND 2006:2022[mhda]). The terms "MeSH" and "mhda" are underlined in red. Below the input field are two buttons: "Add to search builder" and "AND" with a dropdown arrow. At the bottom is a "Search PubMed" button.



Hierarchy Changes Examples

Hierarchy Changes: Example 1

MeSH 2022

Lactobacillaceae [B03.353.750.450]

Lactobacillus [B03.353.750.450.475]

- Lactobacillus acidophilus [B03.353.750.450.475.100]
- Lactobacillus brevis [B03.353.750.450.475.180]
- Lactobacillus casei [B03.353.750.450.475.225]
- Lactobacillus crispatus [B03.353.750.450.475.238]
- Lactobacillus delbrueckii [B03.353.750.450.475.250]
- Lactobacillus fermentum [B03.353.750.450.475.325]
- Lactobacillus gasseri [B03.353.750.450.475.363]
- Lactobacillus helveticus [B03.353.750.450.475.400]
- Lactobacillus johnsonii [B03.353.750.450.475.453]
- Lactobacillus leichmannii [B03.353.750.450.475.506]
- Lactobacillus paracasei [B03.353.750.450.475.559]
- Lactobacillus pentosus [B03.353.750.450.475.586]
- Lactobacillus plantarum [B03.353.750.450.475.612]
- Lactobacillus reuteri [B03.353.750.450.475.680]
- Lactobacillus rhamnosus [B03.353.750.450.475.700]
- Lactobacillus sakei [B03.353.750.450.475.775]
- Lactobacillus salivarius [B03.353.750.450.475.850]

Hierarchy Changes: Example 1 (cont.)

MeSH 2023

Lactobacillaceae

Lacticaseibacillus

Lacticaseibacillus casei

Lacticaseibacillus paracasei

Lacticaseibacillus rhamnosus

Lactobacillus

Lactobacillus acidophilus

Lactobacillus crispatus

Lactobacillus delbrueckii

Lactobacillus gasseri

Lactobacillus helveticus

Lactobacillus johnsonii

Lactobacillus leichmannii

Lactobacillus pentosus

Lactobacillus plantarum

Latilactobacillus sakei

Levilactobacillus brevis

Ligilactobacillus salivarius

Limosilactobacillus fermentum

Limosilactobacillus reuteri

Exercise 2

MeSH 2022

Lactobacillaceae [B03.353.750.450]

Lactobacillus [B03.353.750.450.475]

- 
- Lactobacillus acidophilus [B03.353.750.450.475.100]
 - Lactobacillus brevis [B03.353.750.450.475.180]
 - Lactobacillus casei [B03.353.750.450.475.225]
 - Lactobacillus crispatus [B03.353.750.450.475.238]
 - Lactobacillus delbrueckii [B03.353.750.450.475.250]
 - Lactobacillus fermentum [B03.353.750.450.475.325]
 - Lactobacillus gasseri [B03.353.750.450.475.363]
 - Lactobacillus helveticus [B03.353.750.450.475.400]
 - Lactobacillus johnsonii [B03.353.750.450.475.453]
 - Lactobacillus leichmannii [B03.353.750.450.475.506]
 - Lactobacillus paracasei [B03.353.750.450.475.559]
 - Lactobacillus pentosus [B03.353.750.450.475.586]
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 - Lactobacillus reuteri [B03.353.750.450.475.680]
 - Lactobacillus rhamnosus [B03.353.750.450.475.700]
 - Lactobacillus sakei [B03.353.750.450.475.775]
 - Lactobacillus salivarius [B03.353.750.450.475.850]

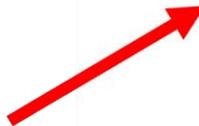
MeSH 2023

Lactobacillaceae

Lacticaseibacillus

- Lacticaseibacillus casei
- Lacticaseibacillus paracasei
- Lacticaseibacillus rhamnosus

Lactobacillus

- 
- Lactobacillus acidophilus
 - Lactobacillus crispatus
 - Lactobacillus delbrueckii
 - Lactobacillus gasseri
 - Lactobacillus helveticus
 - Lactobacillus johnsonii
 - Lactobacillus leichmannii
 - Lactobacillus pentosus
 - Lactobacillus plantarum
 - Latilactobacillus sakei
 - Levilactobacillus brevis
 - Ligilactobacillus salivarius
 - Limosilactobacillus fermentum
 - Limosilactobacillus reuteri



Hierarchy Changes: Example 2

MeSH 2022

Aneurysm [C14.907.055]

Aneurysm, Dissecting [C14.907.055.050] 

Carotid Artery, Internal, Dissection [C14.907.055.050.150]

Loeys-Dietz Syndrome [C14.907.055.050.362]

Vertebral Artery Dissection [C14.907.055.050.575]

Hierarchy Changes: Example 2 (cont.)

MeSH 2023

Aneurysm

Dissection, Blood Vessel

Aortic Dissection

Dissection, Abdominal Aorta

Dissection, Thoracic Aorta +

Ehlers-Danlos Syndrome, Type IV

Carotid Artery, Internal, Dissection

Vertebral Artery Dissection

Exercise 3

MeSH 2022

Aneurysm [C14.907.055]

Aneurysm, Dissecting [C14.907.055.050] ◉

Carotid Artery, Internal, Dissection [C14.907.055.050.150]

Loeys-Dietz Syndrome [C14.907.055.050.362]

Vertebral Artery Dissection [C14.907.055.050.575]

MeSH 2023

Aneurysm

Dissection, Blood Vessel

Aortic Dissection

Dissection, Abdominal Aorta

Dissection, Thoracic Aorta +

Ehlers-Danlos Syndrome, Type IV

Carotid Artery, Internal, Dissection

Vertebral Artery Dissection



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- Can result in dramatic retrieval changes
- Offer an improvement to your explosions
- Take a fresh look at the new hierarchy and reconsider your search

Hierarchy Changes

Exercise 4

- You want to search PubMed as comprehensively as possible, back to 2010, for literature related to Paramedicine. How would you do this?



Exercise 5

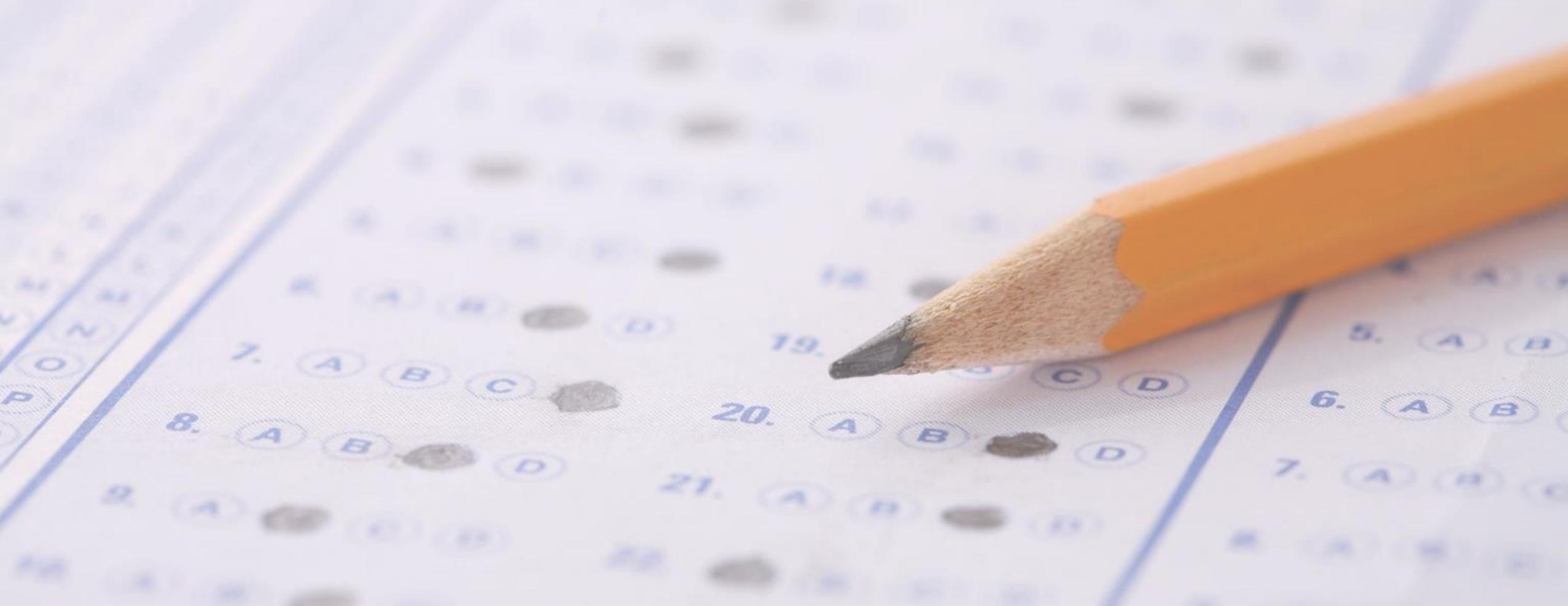
- You want to search PubMed as comprehensively as possible, back to 2015, for literature related to Dust Mite Allergy. How would you do this?



Additional Questions?



Post-Test



Post-Test Questions

1. When a new, more specific MeSH heading is added to the vocabulary, it is applied to records that were indexed in previous years.
 - a. True
 - b. False
2. When a MeSH term is replaced, the term that was replaced is retained in MeSH as a(n):
 - a. MeSH Term
 - b. Entry Term
 - c. Supplementary Concept
3. The PubMed search results for a new, more specific term (e.g., Systemic Racism) will be included in the results for the broader term above it (e.g., Racism).
 - a. True
 - b. False
4. If my saved search suddenly retrieves many more or many fewer citations on a regular basis starting at the end of a calendar year, what is the most likely explanation? (Check the best answer)
 - a. A changed MeSH term with the same meaning
 - b. A new MeSH concept
 - c. Hierarchy changes to MeSH



Post-Test Answers

1. When a new, more specific MeSH heading is added to the vocabulary, it is applied to records that were indexed in previous years.
 - a. True
 - b. False
2. When a MeSH term is replaced, the term that was replaced is retained in MeSH as a(n):
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 - a. True
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 - b. A new MeSH concept
 - c. Hierarchy changes to MeSH



Summary

- To adjust to changes in MeSH,
 - Check MeSH mappings in your PubMed Search Details
 - Check automatic explosions in MeSH
- Craft searches for older records by using:
 - Year Introduced
 - Previous Indexing and/or broader terms with
 - [mhda]
- Read about the MeSH changes in October and the year-end changes to MEDLINE in December in the NLM Technical Bulletin.



How to Get Your MLA CE

Close survey

Thank you for completing this evaluation survey. Your feedback will support efforts to improve future Network of the National Library of Medicine (NNLM) training sessions.

If your training session ("MeSH Changes and PubMed Searching") offered Continuing Education credit from the Medical Library Association and you would like to claim it, please follow these instructions. See Step 4 for enrollment code.

1. Go to www.medlib-ed.org
2. Login (for information on how to create a free MEDLIB-ED account, [visit MLA's FAQ page for further help](#)).
3. Click My Learning on the blue bar near the top of the page
4. Enter the following enrollment code in the appropriate field:
██████████ (please copy)
5. Click Redeem, then Claim

If you have questions or run into problems with MEDLIB-ED, please email MEDLIB-ED@mail.mlahq.org

Copy the code from the evaluation survey



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